

REMARKS

In the March 15, 2006 Office Action, claims 1, 4, 9, 11, 12, 16-20 and 22 stand rejected in view of prior art, while claims 2, 3, 5-8, 10, 13-15 and 21 were indicated as containing allowable subject matter. Claims 20-22 also were rejected for failing to indicate and claim particularly and distinctly the subject matter that Applicant regards as the invention. Claim 15 was objected to for informalities. No other objections or rejections were made in the Office Action.

Status of Claims and Amendments

In response to the March 15, 2006 Office Action, Applicant has amended claims 2, 15, 17, 21 and 22 as indicated above. Claim 21 was amended to place this claim in independent form to accept the allowable subject matter. Applicant wishes to thank the Examiner for this indication of allowable subject matter and the thorough examination of this application. Claim 18 has been canceled in view of the amendments to claim 17. Thus, claims 1-17 and 19-22 are pending, with claims 1, 16, 21 and 22 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

Claim Objections

In the numbered paragraph 1 of the Office Action, claim 15 was objected to because of the informalities. In response, Applicant has amended claim 15 to correct the informalities as suggested in the Office Action. Withdrawal of the objection is respectfully requested.

Claim Rejections - 35 U.S.C. §112

In the numbered paragraphs 2-5 of the Office Action, claims 20-22 were rejected under 35 U.S.C. §112, second paragraph. In response, Applicant has amended claims 20 and 22 to clarify claims 20-22.

Specifically, claim 20 has been amended to change "the at least one passenger" in line 3 to "the at least one passenger restricting device" to provide proper antecedent bases for this limitation. Claim 22 has been amended as suggested in the Office Action.

Applicant believes that claims 20-22 now comply with 35 U.S.C. §112, second paragraph. Withdrawal of the rejections is respectfully requested.

Rejections - 35 U.S.C. § 102

In the numbered paragraphs 6 and 7 of the Office Action, claims 17 and 22 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication

No. 2004/0102883 to Sala et al. (hereinafter "Sala et al. publication"). In response, Applicant has amended independent claims 17 and 22 to clearly define the present invention over the prior art of record. More specifically, claim 17 has been amended to rewrite this claim in dependent form that depends from independent claim 1.

In particular, claims 17 and 22 now require a ***tension member*** with a prescribed initial tensile force extending in a width-wise direction of the front vehicle structural section. Claims 17 and 22 further require identifying a collision state of the vehicle based on a ***comparison*** between the ***left and right tensile forces*** of the tension member. Clearly, this structure is ***not*** disclosed or suggested by the Sala et al. publication or any other prior art of record. It is well settled under U.S. patent law that for a reference to anticipate a claim, the reference must disclose ***each*** and ***every*** element of the claim within the reference. Therefore, Applicant respectfully submits that claims 17 and 22, as now amended, are ***not*** anticipated by the prior art of record.

Withdrawal of this rejection is respectfully requested.

Rejections - 35 U.S.C. § 103

In the numbered paragraphs 8-11 of the Office Action, claims 1, 4, 9, 11, 12, 16 and 18-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the prior art. More specifically, claims 1, 4, 9, 11 and 12 are rejected as being obvious over U.S. Patent No. 3,859,482 to Matsui et al. (hereinafter "Matsui et al. patent") in view of the Sala et al. publication and further in view of U.S. Patent No. 5,431,445 to Wheatley (hereinafter "Wheatley patent"). Claim 16 are rejected as being obvious over the Matsui et al. patent in view of the Sala et al. publication. Claims 18-20 are rejected as being obvious over the Sala et al. publication in view of the Matsui et al. patent and the Wheatley patent. In response, Applicant respectfully traverses the rejections because Applicant believes the prior art of record fails to render the invention recited in independent claims 1 and 16 obvious.

More specifically, independent claims 1 and 16 clearly recite that the vehicle collision detecting device is configured and arranged to identify a collision state of the vehicle based on a ***comparison*** between the ***left and right tensile forces*** of the tension member measured by the left and right tensile force sensors. Clearly this arrangement is ***not*** disclosed or suggested by the Matsui et al. patent, the Sala et al. publication, the Wheatley patent, or any other prior art of record whether taken alone or in combination.

First, Applicant points out that the Matsui et al. patent does not clearly disclose how the flexible line 148 (allegedly corresponding to the tension member) shown in Figure 27 is used. Applicant believes the disclosure of the Matsui et al. patent could be interpreted such that the tension of the flexible line 148 may be used to measure the acceleration of the vehicle when the extensible rods 144 and 144' are caused to protrude violently during a relatively high speed traveling condition thereby producing an increased tension in the flexible line 148 (please see column 26, line 66 to column 27, line 7). Thus, it could be determined that the acceleration of the vehicle is larger than a predetermined value when a signal indicative of the tension in the flexible line 148 exceeding the predetermined limit is outputted. On the other hand, the flexible line 148 of the Matsui et al. patent could also be interpreted as being used to detect an occurrence of collision when the flexible line 148 interferes with an obstacle during the collision. The interference between the flexible line 148 and the obstacle causes an increased tension in the flexible line 148, and a signal is outputted when the tension of the flexible line 148 exceeds the predetermined limit. Thus, it is not clear exactly how the flexible line 148 of the Matsui et al. patent work from the disclosure of the Matsui et al.

In either case, Applicant believes one of ordinary skilled in the art would not consider it obvious to modify the collision detecting device having the flexible line 148 of the Matsui et al. patent in view of the left and right acceleration force sensors of the Sala et al. publication to obtain the arrangements recited in independent claims 1 and 16.

The Sala et al. publication merely discloses two front-end acceleration sensors configured and arranged to detect accelerations to produce velocity and displacement values *during a collision* (i.e., when a collision situation is sensed as described in the abstract of the Sala et al. publication). In other words, the acceleration sensors disclosed in the Sala et al. publication are not configured and arranged to detect the acceleration of the vehicle, but rather, those sensors are adapted to determine the velocity and displacement values relating to a collision after the collision occurs. Thus, even when the flexible line 148 of the Matsui et al. patent is interpreted as an acceleration sensor that measures the acceleration of the vehicle, the purposes of the acceleration sensors of the Sala et al. publication and the flexible line 148 are *completely different*. If the flexible line 148 of the Matsui et al. patent was used to measure the acceleration of the vehicle, the flexible line 148 could only detect the acceleration of the vehicle due to extension of the extensible rods 144 and 144' *prior to the collision*. On the other hand, the acceleration sensors of the Sala et al. publication are

specifically adapted to detect the accelerations *after the collision* to determine the velocity and displacement of the locations where the sensors are provided to. Accordingly, one of ordinary skilled in the art would *not* modify the arrangement of the flexible line 148 of the Matsui et al. patent in view of the acceleration sensors of the Sala et al. publication because *the functions of those components are completely different*.

Moreover, even when the flexible line 148 of the Matsui et al. patent is interpreted such that the flexible line 148 is used to detect an occurrence of the collision rather than the acceleration of the vehicle, the Matsui et al. patent merely suggests measuring the tension of the flexible line 148 as a whole, and *not* the *left* and *right* tensile forces of the flexible line 148 independently to detect different collision states. In other words, the Matsui et al. patent is absolutely silent about *identifying a collision state* by comparing the *left and right tensile forces*. The Sala et al. publication merely discloses right and left *acceleration* sensors which are specifically used to determine the velocity and displacement during the collision. The Sala et al. publication is *absolutely silent* about using tensile force of a tension member to determine the velocity and displacement. Thus, there is no suggestion or expectation of success for combining the Matsui et al. patent and the Sala et al. publication to create the Applicant's unique arrangement of the vehicle collision state detecting device.

Although the Sala et al. publication discloses identifying different types of collisions based on the velocities and displacements of the sensor locations obtained based on the acceleration sensor outputs, the acceleration sensors of the Sala et al. publication cannot be simply replaced by a structure using the flexible line 148 of the Matsui et al. patent because the structure disclosed in the Matsui et al. patent cannot be able to produce the velocity and displacement of the sensor locations during the collision. If the Matsui et al. patent were somehow modified to meet the claims of the present invention, it would require a complete reconstruction of the arrangement of the flexible line 148 of the Matsui et al. patent, which would destroy the teaching of the Matsui et al. patent. Moreover, such hypothetical product would fail to disclose or suggest identifying a collision state of the vehicle based on a *comparison* between the *left and right tensile forces* because neither the Matsui et al. patent nor the Sala et al. publication discloses or suggests such limitation. Accordingly, one of ordinary skilled in the art would not regard it obvious to modify the Matsui et al. patent to include a pair of left and right *tensile* force sensors that measure the left and right *tensile* forces as asserted by the Examiner.

The Wheatley patent is apparently cited to show the front vehicle structural section having a predetermined collision collapsing characteristic. However, the Wheatley patent fails to provide for the deficiencies of the Matsui et al. patent and the Sala et al. publication in that the Wheatley patent also fails to disclose or suggest identifying a collision state of the vehicle based on a *comparison* between the *left and right tensile forces* of the tension member measured by the left and right tensile force sensors as recited in independent claims 1 and 16.

It is well settled in U.S. patent law that the mere fact that the prior art can be modified does *not* make the modification obvious, unless the prior art *suggests* the desirability of the modification. Accordingly, the prior art of record lacks any suggestion or expectation of success for combining the patents to create the Applicant's unique arrangement of the vehicle collision state detecting device.

Moreover, Applicant believes that dependent claims 4, 9, 11, 12 and 18-20 are also allowable over the prior art of record in that they depend from independent claim 1, and therefore are allowable for the reasons stated above. Also, dependent claims 4, 9, 11, 12 and 18-20 are further allowable because they include additional limitations. Thus, Applicant believes that since the prior art of record does not disclose or suggest the invention as set forth in independent claim 1, the prior art of record also fails to disclose or suggest the inventions as set forth in the dependent claims.

Therefore, Applicant respectfully requests that the rejections be withdrawn in view of the above comments and amendments.

Allowable Subject Matter

In the numbered paragraph 12 of the Office Action, claims 2, 3, 5-8, 10, 13-15 and 21 were indicated as containing allowable subject matter. Applicant wishes to thank the Examiner for this indication of allowable subject matter and the thorough examination of this application. In response, Applicant has amended claim 21 to place this claim in independent form. Thus, independent claim 21 is believed to be allowable.

Regarding claims 2, 3, 5-8, 10 and 13-15, Applicant believes that claims 2, 3, 5-8, 10 and 13-15 are also allowable over the prior art of record in that they depend from independent claim 1, and therefore are allowable for the reasons stated above. Also, dependent claims 2, 3, 5-8, 10 and 13-15 are further allowable because they include additional limitations that are indicated as containing allowable subject matter. Thus, Applicant believes that since the

prior art of record does not disclose or suggest the invention as set forth in independent claim 1, the prior art of record also fails to disclose or suggest the inventions as set forth in dependent claims 2, 3, 5-8, 10 and 13-15.

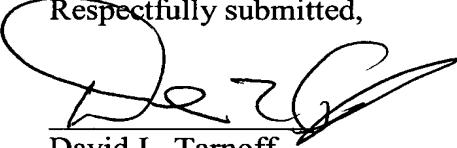
Prior Art Citation

In the Office Action, additional prior art references were made of record. Applicant believes that these references do not render the claimed invention obvious.

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In view of the foregoing amendment and comments, Applicant respectfully asserts that claims 1-17 and 19-22 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,



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